

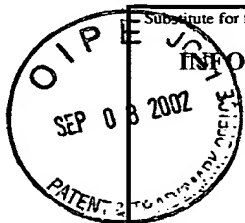
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#18



Substitute for form 1449A/PTO				Complete If Known	
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (use as many sheets as necessary)					
Application Number		09/930,440			
Filing Date		August 16, 2001			
First Named Inventor		Betenbaugh et al.			
Group Art Unit		1652			
Examiner Name		Manjunath N. Rao			
Attorney Docket Number		PF509P2			
Sheet	1	of	1		

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No. ¹	U.S. Patent Document Number Kind Code ² (if known)		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ⁶
mmr	GG	European Search Report dated July 11, 2002.			
	GH	European Search Report dated June 10, 2002			
mmr	GI	Munster et al., "Mammalian cytidine 5'-monophosphate N-acetylneuraminic acid synthetase: A nuclear protein with evolutionarily conserved structural motifs", Proc. Natl. Acad. Sci. 95:9140-9145 (1998)			
	GJ	XP-002199518; Accession No. 088719; Database SWALL 'Online!'; Nov. 1, 1998			Authentic
	GK	XP-002199519; Accession No. AJ006215; Database EMBL 'Online!'; August 7, 1998			
mmr	GL	Kean, E.L., "Mini Review Sialic Acid Activation", Glycobiology, 1(5):441-447 (1991)			
mmr	GM	Kolisis, F.N., "Studies on Acylneuraminatase Cytidylyltransferase from Human Placenta" Archives Internationales de Physiologie et de Biochimie 92:179-184 (1984)			
#	GN	EMBL Accession No. AJ006215; "CMP-N-acetylneuraminic acid synthetase" August 7, 1998			
mmr	GO	Gu et al., "Improvement of Interferoy-γ Sialylation in Chinese Hamster Ovary Cell Culture by Feeding of N-Acetylmannosamine", Biotechnology and Bioengineering 58(6):642-648 (1998)			
mmr	GP	Ogonah et al., "Isolation and Characterization of an Insect Cell Line Able to Perform Complex N-Linked Glycosylation on Recombinant Proteins" Biotechnology 14:197-202 (1996)			

Examiner	<i>mmr</i>	Date Considered	<i>10/23/02</i>
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				09/930,440	
				Filing Date	
				August 16, 2001	
				First Named Inventor	
		Betenbaugh et al.			
Group Art Unit		To be assigned			
Examiner Name		To be assigned			
Attorney Docket Number		PF509P2			
Sheet	1	of	11		

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mmz	AA	6,030,824		Hillman et al.	02-29-2000
I	AB	5,962,302		Hillman et al.	10-05-1999
mmz	AC	5,593,887		Wong et al.	01-14-1997

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³	Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY
mmz	AD		WO 00/05378		STICHTING DIENST LANDBOUWKENDIG ONDERZOEK	02-03-2000
						Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
						T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS			
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mmz	AE	Munster, A-K., et al., "Mammalian cytidin 5'-monophosphate N-acetylneuraminic acid synthetase: A nuclear protein with evolutionarily conserved structural motifs", Proc. Natl. Acad. Sci. USA, vol.95, pp.9140-9145 (August 1998).	
mmz	AF	Redenbach, M., et al., "A set of ordered cosmids and a detailed genetic and physical map for the 8 Mb Streptomyces coelicolor A3(2) chromosome", Mol. Microbiol., vol.21, no.1, pp.77-96 (July 1996).	
	AG	Genbank Accession No. AI916625 (12/16/1999)	
	AH	Genbank Accession No. AI635718 (12/16/1999)	
	AI	Genbank Accession No. AI550577 (03/15/2000)	
	AJ	Genbank Accession No. AI521193 (04/13/1999)	
	AK	Genbank Accession No. AI383564 (03/18/1999)	
	AL	Genbank Accession No. AI245446 (11/04/1998)	
	AM	Genbank Accession No. AI079177 (09/24/1998)	
	AN	Genbank Accession No. AA226858 (02/24/1997)	
	AO	Genbank Accession No. AA162738 (12/17/1996)	
	AP	Genbank Accession No. W79930 (10/17/1996)	

Examiner	mmz	Date Considered	10/23/02
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Attorney Docket Number		PF509P2			
Sheet	2	of	11		

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	AQ	Genbank Accession No. W78156 (10/17/1996)		
	AR	Genbank Accession No. N43918 (02/07/1996)		
	AS	Genbank Accession No. H65991 (10/18/1995)		
	AT	Genbank Accession No. H03606 (06/20/1995)		
	AU	Genbank Accession No. R79402 (06/09/1995)		
	AV	Genbank Accession No. R24888 (04/20/1995)		
	AW	Genbank Accession No. T87365 (03/17/1995)		
	AX	Genbank Accession No. T87364 (03/17/1995)		
	AY	Genbank Accession No. T78879 (03/15/1995)		
	AZ	Genbank Accession No. T78878 (03/15/1995)		
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	BB	Genbank Accession No. AI813508 (12/21/1999)		
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	BD	Genbank Accession No. AI688690 (12/17/1999)		
	BE	Genbank Accession No. AI685603 (05/27/1999)		
	BF	Genbank Accession No. AI677789 (12/17/1999)		

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				Application Number		09/930,440	
				Filing Date		August 16, 2001	
				First Named Inventor		Betenbaugh et al.	
				Group Art Unit		To be assigned	
				Examiner Name		To be assigned	
				Attorney Docket Number		PF509P2	
Sheet	3		of	11			

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OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS				
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	BG	Genbank Accession No. AI673324 (12/14/1999)		
	BH	Genbank Accession No. F36772 (05/13/1999)		
	BI	Genbank Accession No. F32570 (05/13/1999)		
	BJ	Genbank Accession No. F28422 (05/13/1999)		
	BK	Genbank Accession No. AI565693 (05/12/1999)		
	BL	Genbank Accession No. AI423931 (03/30/1999)		
	BM	Genbank Accession No. AI368438 (02/15/1999)		
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Examiner	Date Considered
mmmr	10/23/02

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				09/930,440	
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				August 16, 2001	
				First Named Inventor	
		Bettenbaugh et al.			
Group Art Unit		To be assigned			
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Attorney Docket Number		PF509P2			
Sheet	4	of	11		

U.S. PATENT DOCUMENTS						
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	BX	Genbank Accession No. AA947519 (07/23/1998)		
	BY	Genbank Accession No. AA918001 (06/10/1998)		
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	CA	Genbank Accession No. AA831223 (03/25/1998)		
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	CD	Genbank Accession No. AA064694 (12/23/1997)		
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	CH	Genbank Accession No. AA639295 (10/23/1997)		
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	CJ	Genbank Accession No. AA602067 (10/08/1997)		
	CK	Genbank Accession No. AA564277 (09/04/1997)		
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	CM	Genbank Accession No. AA532823 (08/21/1997)		
	CN	Genbank Accession No. AA533883 (08/21/1997)		

Examiner	<i>mmml</i>	Date Considered	10/23/02
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	CO	Genbank Accession No. AA502303 (08/19/1997)	
	CP	Genbank Accession No. AA195380 (04/29/1998)	
	CQ	Genbank Accession No. AA057158 (05/11/1997)	
	CR	Genbank Accession No. AA056990 (05/11/1997)	
	CS	Genbank Accession No. AA056931 (05/11/1997)	
	CT	Genbank Accession No. AA057865 (05/11/1997)	
	CU	Genbank Accession No. F20800 (05/17/1999)	
	CV	Genbank Accession No. AA373896 (04/21/1997)	
	CW	Genbank Accession No. AA325066 (04/20/1997)	
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	CY	Genbank Accession No. AA270975 (03/26/1997)	
	CZ	Genbank Accession No. AA121653 (01/30/1997)	
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	DB	Genbank Accession No. AA132974 (11/27/1996)	
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	DD	Genbank Accession No. W46636 (10/11/1996)	

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	DF	Genbank Accession No. N75480 (03/29/1996)	
	DG	Genbank Accession No. N46383 (02/14/1996)	
	DH	Genbank Accession No. N37069 (01/16/1996)	
	DI	Genbank Accession No. N30051 (01/05/1996)	
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	DK	Genbank Accession No. N27680 (12/30/1995)	
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	DN	Genbank Accession No. T82852 (03/16/1995)	
	DO	Genbank Accession No. R72258 (06/02/1995)	
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	DR	Genbank Accession No. AA839024 (02/27/1998)	
	DS	Genbank Accession No. AA230788 (02/26/1997)	
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	DU	Genbank Accession No. AA604000 (10/28/1997)	

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INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (use as many sheets as necessary)								
Application Number		09/930,440						
Filing Date		August 16, 2001						
First Named Inventor		Betenbaugh et al.						
Group Art Unit		To be assigned						
Examiner Name		To be assigned						
Sheet	7	of	11	Attorney Docket Number PF509P2				
U.S. PATENT DOCUMENTS								
Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear		
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	DV	Genbank Accession No. W85985 (02/02/1997)						
	DW	Genbank Accession No. AA032715 (08/22/1996)						
	DX	Genbank Accession No. AI701120 (12/18/1999)						
	DY	Genbank Accession No. AA981884 (05/27/1998)						
	DZ	Genbank Accession No. W59582 (06/06/1996)						
	EA	Genbank Accession No. AA670706 (11/25/1997)						
	EB	Genbank Accession No. AI624434 (12/14/1999)						
	EC	Genbank Accession No. T77310 (03/06/1995)						
	ED	Genbank Accession No. AA081645 (10/21/1996)						
	EE	Genbank Accession No. W65159 (06/10/1996)						
	EF	Genbank Accession No. T99986 (03/31/1995)						
	EG	Genbank Accession No. AA636878 (12/14/1995)						
	EH	Genbank Accession No. H68573 (10/27/1995)						
	EI	Genbank Accession No. AA162903 (02/11/1997)						
	EJ	Genbank Accession No. AI879065 (08/23/1999)						
	EK	Genbank Accession No. AA930983 (04/23/1998)						
	EL	Genbank Accession No. R74907 (07/25/1996)						
	EM	Genbank Accession No. AA792227 (02/09/1998)						
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	EN	Genbank Accession No. AI888696 (03/08/2000)	
	EO	Genbank Accession No. AA417239 (10/16/1997)	
	EP	Genbank Accession No. AA384961 (04/21/1997)	
	EQ	Genbank Accession No. C84527 (03/26/1999)	
	ER	Genbank Accession No. AI739429 (12/21/1999)	
	ES	Genbank Accession No. AA415331 (10/16/1997)	
	ET	Genbank Accession No. R86540 (08/17/1995)	
	EU	Genbank Accession No. AI664161 (05/10/1999)	
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	EW	Genbank Accession No. AA007637 (05/09/1997)	
	EX	Genbank Accession No. AI470741 (03/09/1999)	
	EY	Genbank Accession No. AA203188 (01/24/1997)	
	EZ	Genbank Accession No. AI340362 (02/13/1999)	
	FA	Genbank Accession No. AA711207 (12/24/1997)	
	FB	Genbank Accession No. AA000619 (07/18/1996)	
	FC	Genbank Accession No. A778902 (02/05/1998)	
	FD	Genbank Accession No. AI117197 (09/02/1998)	

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	FE	Genbank Accession No. AA475777 (06/18/1997)	
	FF	Genbank Accession No. W85750 (02/02/1997)	
	FG	Genbank Accession No. AA269909 (03/26/1997)	
	FH	Genbank Accession No. AA691227 (12/16/1997)	
	FI	Genbank Accession No. AI829102 (12/21/1999)	
	FJ	Genbank Accession No. AA016640 (08/02/1996)	
	FK	Genbank Accession No. AA002459 (07/19/1996)	
	FL	Genbank Accession No. AN27768 (10/27/1998)	
	FM	Genbank Accession No. AA119079 (02/17/1997)	
mmml	FN	SAKAKIBARA ET AL., Constructions and expression of human aldolase A and B expression plasmids in Escherichia coli host, Biochimica et Biophysica Acta, 1007:334-342 (1989).	
	FO	LUBINEAU ET AL., "Combined Chemical and Enzymatic Synthesis of the Sialylated Non Reducing Terminal Sequence of GM _{1b} Glycolylated Ganglioside, a Potential Human Tumor Marker," <i>Bioorganic & Medicinal Chemistry</i> 2(7):669-674 (1994).	
mmml	FP	International Preliminary Examination Report mailed on August 22, 2001, in corresponding International Application No. PCT/US00/05313.	

Examiner	mmml	Date Considered	10/23/02
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Sheet	10	of	11		

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mmmr	FQ	International Search Report mailed on June 20, 2000, in corresponding International Application No. PCT/US00/05313.		
	FR	FUSSENEGGER et al. "Genetic optimization of recombinant glycoprotein production by mammalian cells," <i>TIBS</i> 17:35-42 (1999)		
	FS	SHAMES et al. "CMP-N-acetylneuraminic acid synthase of E. coli: high level expression purification and use in the enzymatic synthesis of CMP-N-acetylneuraminic acid and CMP-neuraminic acid derivatives," <i>Glycobiology</i> 1:187-191 (1991)		
	FT	MURHAMMER et al. "Review and Patents and Literature: The use of insect cell cultures for recombinant protein synthesis: engineering aspects," <i>Appl. Biochem. Biotech.</i> 31:283-310 (1991)		
	FU	YANG et al. "Human transferrin: cDNA characterization and the chromosomal localization," <i>PNAS USA</i> 81:2752-2756 (1984)		
	FV	SAKAKIBARA et al. "Nucleotide sequence of a cDNA clone for human aldolase; a mRNA in the liver," <i>Biochem. Biophys. Res. Commun.</i> 131(1):413-420 (1985)		
	FW	GONZALEZ et al. "Identification, expression, and characterization of a cDNA encoding human endoplasmic reticulum mannosidase I, the enzyme that catalyzes the first mannose trimming step in mammalian Asn-linked oligosaccharide biosynthesis," <i>J. Biol. Chem.</i> 274(30):21375-21386 (1999)		
	FX	RODRIGUEZ-APARICIO, et al. "Purification and Characterization of the Nuclear Cytidine 5' Monophosphate N-Acetylneuraminic Acid Synthetase from Rat Liver" <i>J. Biol. Chem.</i> 267(13):9257-9263 (1992)		
mmmr	FY	International Search Report mailed on April 30, 2001, in related International Application No. PCT/US00/33136.		

Examiner	mmmr	Date Considered	10/28/02
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				First Named Inventor	Betenbaugh et al.		
				Group Art Unit	To be assigned		
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mmml	FY	WO 98/06835		The Texas A&M University System	02-19-1998		
	FZ	WO 00/52135		Human Genome Sciences, Inc.	09-08-2000		
	GA	WO 01/42492		Human Genome Sciences, Inc.	06-14-2001		
mmml	GB	WO 00/52136		Human Genome Sciences, Inc.	09-08-2000		

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mmml	GC	EMBL/GenBank/ DDBJ database Accession No. AJ000855 (June 1, 1998).	
	GD	GANGULI et al., <i>Journal of Bacteriology</i> , 176(15):4583-4589 (1994).	
	GE	GILBERT et al., <i>The Journal of Biological Chemistry</i> , 275(6):3896-3906 (2000).	
mmml	GF	WEIKERT et al., <i>Nature Biotechnology</i> , 17:1116-1121 (1999).	

Examiner <div style="text-align: center;">mmml</div>	Date Considered <div style="text-align: center;">10/23/02</div>
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